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| 19. ABSTRACT (Continue on reverse if necessary and identify by block number) Research efforts at Hampton University have increased dramatically since funding of the Promotion of Research and Development grant was received from the Department of Defense. A total of 24 proposals were submitted to defense related agencies during the tenure of this grant. Ada training has been provided for students and faculty at Hampton University and plans have been developed to include the broader scientific community. A Local Area Network is near completion that will connect all of the science (over) | | | |
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departments to the Academic Computer Center (ACC). Plans are underway to connect the ACC to a national network such as NSFnet or SURAnet which will further promote research and development at Hampton University.

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THE PROMOTION OF RESEARCH AND DEVELOPMENT

FINAL REPORT

U. S. ARMY RESEARCH OFFICE

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HAMPTON UNIVERSITY

August 1989



Hampton University, a privately endowed, co-educational, nonsectarian institution of higher education is strongly committed to strengthening its scientific research efforts. To this end, the University developed several new science and engineering programs and initiated graduate programs in some established science areas. Areas actively involved in scientific research are computer science, chemistry, applied mathematics, physics, biological sciences, marine and environmental sciences, engineering, and architecture. These areas are emphasized because of the strategic location of the University within a region with numerous federal and private defense related areas.

In the summer of 1987, a proposal requesting funds for the expansion of the University's Academic Computing Center (ACC) which is located in the Department of Computer Science was submitted to the Department of Defense. The grant was funded by DoD primarily for the purchase of state-of-the-art equipment and general upgrading of the ACC in order to improve the research capabilities of University personnel. Training in the use of Ada for students, faculty, and the community was also a target for this proposal.

In the first year of the grant, a VAX 8350 containing 32 MB of main memory with dual processors along with DEC Ada was purchased and installed. Two faculty members in the Department of Computer Science (Robert Willis and Reginald Walker) were given released time to serve as Ada specialists for the year and a Programmer/Analyst (Robert Hutchins) was hired in January of 1988.

An Ada seminar was conducted for the computer science faculty in November of 1987. Since that time, several faculty in the department have attended our Ada classes and have become proficient in the language. A

workshop was held for the faculty in the School of Pure and Applied Sciences in order to familiarize non-computer science faculty with areas of research in which Ada might be best utilized.

The Ada Tutorial for AIRMICS that was written in PASCAL was completely redesigned and implemented in Ada by students supported by this grant. An interim delivery was made to AIRMICS in June, 1989 and a final delivery will be made in September, 1989.

One faculty member (Reginald Walker) presented a paper entitled "Graphics Applications Utilizing Parallel Processing" at the 1988 National Conference on Ada Technology. Also, three undergraduate students (Renee' Washington, Kevin Robinson, and Morris Johnson) presented a paper entitled "Upgrading a Lisp Prototype (ADVISOR) to a System in Ada" at the 1989 National Conference on Ada Technology.

Courses in Ada are taught each semester and summer in the computer science curriculum with an average of about 12 students. This training gives our students and graduating seniors an edge in defense related Co-Op and permanent job positions. In fact, many of our students are employed in various agencies within the government.

A time extension was requested and received on the grant until June 30, 1989 in order to facilitate the establishment of the Local Area Network (LAN). To date, the Information Systems Network (ISN) by AT&T has been installed and tested. However, a blockage was found in one of the existing conduits and a new conduit is in the process of being constructed by the University. This has delayed the installation of the fiber optic network between the science buildings. The expected completion date of the LAN is October 31, 1989.

This delay, however, has not caused major problems for our researchers

because they currently use phone lines and modems to access the ACC. There were 6 proposals submitted to DoD between July 1987 and June 1988, 16 between July 1988 and June 1989, and 2 since June of this year.

We believe that the expected outcomes as stated in the proposal have been achieved by the grant that we received from DoD. Research efforts by the University have expanded, hardware and software in the ACC have been upgraded, and Ada training for students, faculty, and the community has been established. Funding for the Programmer/Analyst position by DoD was for one year only. Since that time, the University has made this a permanent position and Robert Hutchins is now on staff for the ACC.